

## WHAT IS CLAIMED IS:

1. A swash-plate compressor comprising:
  - a drive shaft to be rotated;
  - 5 a piston having a coupling portion and reciprocally movable by rotation of the swash plate; and
    - a shoe slidably coupling the coupling portion to the swash plate, the coupling portion having a spherical contact surface, the shoe having a spherical surface slidable along the contact surface, at least one of the contact surface and the spherical surface having an oxide film retaining a number of self-lubricating particles.
  - 10 2. The swash-plate compressor according to claim 1, wherein the oxide film is formed on at least one of the shoe and the coupling portion by anode oxidation.
  - 15 3. The swash-plate compressor according to claim 2, wherein the self-lubricating particles impregnate the oxide film.
  4. The swash-plate compressor according to claim 1, wherein the oxide film has a number of microscopic pores, the self-lubricating particles being deposited in the microscopic pores by electrolysis.
  - 20 5. The swash-plate compressor according to claim 4, wherein the microscopic pores are regularly arranged.
  6. The swash-plate compressor according to claim 4, wherein the oxide film is formed on at least one of the shoe and the coupling portion by anode oxidation.
  - 25 7. The swash-plate compressor according to claim 4, wherein the oxide film is made of a solid lubricant, the self-lubricating particles being deposited by electrolysis of the solid lubricant.

8. The swash-plate compressor according to claim 1, wherein the oxide film has a thickness of 5  $\mu\text{m}$  or more and a surface hardness of 250 HV or more.
9. The swash-plate compressor according to claim 1, wherein the oxide film is made of at least one kind of solid lubricant containing  $\text{MoS}_2$  as a main component.
10. The swash-plate compressor according to claim 1, wherein the oxide film is made of at least one kind of solid lubricant containing PTFE as a main component.
- 10 11. The swash-plate compressor according to claim 1, wherein the oxide film is made of an organic iodine compound.